

Sol 2.1 Custom Config changes

HDR multiplier and Autoexposure

Due to the great results with AE quality by deactivating the car's exposure multiplier, I decided to also change the custom config function to retrieve the AE value.

Before you got the AE value via:

```
weather__get_hdr_multiplier()
```

Now you need to use the function:

```
weather__get_AE()
```

It will retrieve the same values, but is no more influenced by Sol's parameter "weather__HDR_multiplier".

To use the car's exposure multiplier uninfluenced AE, use this settings:

```
SOL__set_config("ae", "use_self_calibrating", false)
SOL__set_config("ae", "alternate_ae_mode", 1)
ac.setCarExposureActive(false)
```

It will work great for the most cars, but not so with small cockpits, like lemans prototypes. But there will be a solution soon...

weather__HDR_multiplier

This now controls a Sol internal function to raise or lower HDR with the weather components like sun and ambient light.

Getting AC Video Settings

weather__get_Video_Settings(key, parameter)

```
local video_mode = weather__get_Video_Settings("CAMERA", "MODE")
if video_mode then

    if video_mode == "DEFAULT" then

    elseif video_mode == "TRIPLE" then

    elseif video_mode == "OCULUS" then

    elseif video_mode == "OPENVR" then

    end
end
```

Getting AC Graphic Settings

weather__get_Graphic_Settings(key, parameter)

```
local mip_lod_bias = weather__get_Graphic_Settings("DX11", "MIP_LOD_BIAS")
if mip_lod_bias < -2 then

end
```

Getting Settings of the current used PPFilter

weather__get_PPFilter_INI_Settings(key, parameter)

```
local bright_pass = weather__get_PPFilter_INI_Settings("GLARE", "BRIGHT_PASS")
if bright_pass > 0 then

end
```

Introduction of “Config Manager”

With Sol 2.1 the „Sol config manager” will be introduced.

Before Sol 2.1, Sol’s config was a LUA-Script, which was included as a script directly in the LUA code.

In the custom configs, the variables were also directly accessed. This leads to limitations of the usage and to some work, which must be done to use them user friendly. Also outdated custom configs causing weatherFX crashes.

With the new config manager, the config is protected data and you need functions to access it. It will be also the entry to make changes of the config via custom configs visible in the Sol_config app.

While Sol 2.1 alpha and beta stage both accesses (direct and function based) are available. With Sol 2.1 RC 1 only the function-based access will be present.

But let’s look at some examples:

Old usage / direct access of Sol’s parameters

Part 1: You declared some variables to backup the parameters:

```
local sun
local sky
local sun_link

function table__deepcopy(orig)
    local orig_type = type(orig)
    local copy
    if orig_type == 'table' then
        copy = {}
        for orig_key, orig_value in next, orig, nil do
            copy[table__deepcopy(orig_key)] = table__deepcopy(orig_value)
        end
        setmetatable(copy, table__deepcopy(getmetatable(orig)))
    else -- number, string, boolean, etc
        copy = orig
    end
    return copy
end
```

Part 2: You initialize parameters absolute and backup parameters for relative changes:

```
function init_sol_custom_config()

    sun_link = ppfilter__brightness_sun_link
    sky = table__deepcopy(nerd__sky_adjust)
    sun = table__deepcopy(nerd__sun_adjust)

    ppfilter__modify_godrays = true
    ppfilter__modify_spectrum = true
end
```

Part 3: You change those parameters relative or absolute.

```
function update_sol_custom_config()

    nerd__sun_adjust.ls_Level      = sun.ls_Level*(1 + 0.10*sun_compensate(0))
    nerd__sun_adjust.ls_Saturation = sun.ls_Saturation*(1 + 0.25*sun_compensate(0))

    nerd__sky_adjust.Level        = (1.25 - 0.25*from_twilight_compensate(0))
    nerd__sky_adjust.Saturation   = (1 + 0.25*sun_compensate(0))

end
```

New usage / function based access of Sol's parameters

Part 1: You don't need this anymore !

Part 2: Initialize parameters absolute in the init function

```
function init_sol_custom_config()

    SOL__set_config("pp", "modify_godrays", true)
    SOL__set_config("pp", "modify_spectrum", true)

end
```

Part 3: Update relative or absolute changes

```
function update_sol_custom_config()

    SOL__set_config("nerd__sun_adjust", "ls_Level", 1+0.10*sun_compensate(0), true)
    SOL__set_config("nerd__sun_adjust", "ls_Saturation", 1+0.25*sun_compensate(0), true)

    SOL__set_config("nerd__sun_adjust", "Level", 1.25 - 0.25*from_twilight_compensate(0))
    SOL__set_config("nerd__sun_adjust", "Saturation", 1 + 0.25*sun_compensate(0))

end
```

Parameter access functions

Writing

SOL__set_config(<SECTION>, <KEY>, value, <relative>)

This function also returns the set values, if it could set...

Reading

SOL__config(<SECTION>, <KEY>)

e.g.:

SOL__set_config("pp", "contrast", 1.05, true)

This will **multiply** the initial value of "contrast" **by** 1.05.

SOL__set_config("pp", "contrast", 1.05)

This will **set** "contrast" **to** 1.05.

New Sol Config Sections and Keys

<SECTION>	<KEY>	default	min	max
performance	use_cpu_split only_use_smaller_textures	False False		
monitor_compensation	blacklevel colors_whitebalance	0 0	0 -10	30 10
ppoff	brightness	1.00	0.25	1.75
pp	brightness contrast saturation brightness_sun_link brightness_sun_link_only_interior modify_glare glare_day_threshold modify_godrays godrays_singlescreen modify_spectrum	1.00 1.00 1.00 1.00 True False 2.00 False True False	0.25 0.80 0.00 0.00 0.00	1.75 1.20 2.00 4.00 50.00
ae	use_self_calibrating control_strength control_damping eye_laziness alternate_ae_mode interior_multiplier	False 2.00 0.50 1.00 0 1.00	-1.00 0.00 0.00 0 0.25	10.00 1.00 1.00 1 4.00
headlights	if_sun_angle_is_under if_ambient_light_is_under if_fog_dense_is_over if_bad_weather	3.00 7.50 0.70 0.50	-90 0.00 0.00 0.00	90 15.00 1.00 1.00
csp_lights	controlled_by_sol multiplier	True 1.00	0.00	4.00
weather	HDR_multiplier use_lightning_effect	1.00 True	0.00	2.00
sky	blue_preset blue_strength smog day_horizon_glow night_horizon_glow	1 1.00 0.75 1.00 1.00	0 0.00 0.00 0.00 0.00	9 2.00 2.00 10.00 10.00
Clouds are not allowed to set	render_method preload_2d_textures randomize_with_reset manual_random_seed opacity_multiplier shadow_opacity_multiplier distance_multiplier quality render_limiter render_per_frame movement_linked_to_time_progression movement_multiplier	2 False False 0 1.00 1.00 1.45 0.60 2 10 False 2.00	--- --- --- --- 0.00 0.00 --- --- 0 1 0.00	--- --- --- --- 1.00 1.00 --- --- 2 100 10.00
sun	size sky_bloom fog_bloom modify_speculars dazzle_mix dazzle_strength dazzle_zenith_multi	1.00 0.63 1.00 True 0.00 0.50 0.00	0.01 0.00 0.00 0.00 0.00 0.00	100 2.00 2.00 1.00 1.00 1.00
moon	casts_shadows	True		

<SECTION>	<KEY>	default	min	max
ambient	sun_color_balance	1.00	0.00	2.00
	use_directional_ambient_light	True		
	use_overcast_sky_ambient_light	True		
	A0_visibility	1.00	0.00	1.00
night	effects_multiplier	0.50	0.00	1.00
	brightness_adjust	0.50	0.00	2.00
	moonlight_multiplier	1.00	0.00	10.00
	starlight_multiplier	1.00	0.00	10.00
nlp	use_light_pollution_from_track_ini	True		
	radius	5.00	0.00	20.00
	density	0.50	0.00	10.00
	Hue	220	0	360
	Saturation	0.25	0.00	2.00
gfx	Level	0.10	0.00	1.00
	reflections_brightness	1.00	0.00	10.00
	reflections_saturation	1.00	0.00	10.00
	wind_volume_interior	0.20	0.00	2.00
sound	wind_volume_exterior	1.00	0.00	2.00
	thunder_volume_interior	1.00	0.00	2.00
	thunder_volume_exterior	1.00	0.00	2.00
Debug				
are not allowed to set	runtime	False	---	---
	solar_system	True	---	---
	weather	False	---	---
	weather_change	False	---	---
	weather_effects	False	---	---
	track	False	---	---
	camera	False	---	---
	AI	False	---	---
	graphics	False	---	---
	custom_config	False	---	---
	AE	False	---	---
	light_pollution	False	---	---
nerd__sky_adjust	Hue	1.00	0.00	2.00
	Saturation	1.00	0.00	2.00
	Level	1.00	0.00	10.00
	SunIntensityFactor	1.00	0.00	10.00
	AnisotropicIntensity	1.00	0.00	10.00
	Density	1.00	0.00	10.00
	Scale	1.00	0.00	10.00
	GradientStyle	1.00	0.20	5.00
	InputYOffset	0.00	-2.00	2.00
nerd__sun_adjust	ls_Hue	1.00	0.00	2.00
	ls_Saturation	1.00	0.00	2.00
	ls_Level	1.00	0.00	10.00
	ap_Level	1.00	0.00	10.00
nerd__speculars_adjust	Level	1.00	0.00	10.00
nerd__clouds_adjust	Saturation	1.00	0.00	10.00
	Saturation_limit	1.00	0.00	10.00
	Lit	1.00	0.00	10.00
	Contour	1.00	0.00	10.00
nerd__ambient_adjust	Hue	1.00	0.00	2.00
	Saturation	1.00	0.00	2.00
	Level	1.00	0.00	10.00
nerd__directional_ambient_light	Level	1.00	0.00	10.00
nerd__overcast_sky_ambient_light	Level	1.00	0.00	10.00

<SECTION>	<KEY>	default	min	max
nerd__fog_custom_distant_fog	use	False		
	distance	30000	1000	50000
	blend	0.85	0.00	2.00
	density	1.75	0.00	10.00
	exponent	0.75	0.00	10.00
	backlit	0.05	0.00	1.00
	sky	0.00	-4.00	1.00
	sun	1.00	0.00	10.00
	night	0.00	0.00	1.00
	Hue	220	0.00	360
	Saturation	0.50	0.00	10.00
	Level	2.50	0.00	10.00
nerd__moon_adjust	low_Hue	32	0	360
	low_Saturation	1.60	0.00	10.00
	low_Level	3.60	0.00	10.00
	high_Hue	210	0	360
	high_Saturation	0.30	0.00	10.00
	high_Level	2.00	0.00	10.00
	mie_Exponent	15	0.00	100
	mie_Multi	1.50	0.00	10.00
	ambient_ratio	0.50	0.00	10.00
nerd__stars_adjust	Saturation	1.00	0.00	10.00
	Exponent	1.00	0.00	10.00
nerd__night_sky	Hue	220	0.00	360
	Saturation	0.50	0.00	10.00
	Level	0.00	0.00	1.00
	Size	0.50	0.00	1.00
nerd__csp_lights_adjust	bounced_day	0.00	0.00	10.00
	bounced_night	1.00	0.00	10.00
	emissive_day	0.65	0.00	10.00
	emissive_night	1.00	0.00	10.00